AGENDA
Facility Capacity Needs Analysis Subcommittee Meeting
of the Long-Range Educational Facilities Plan Work Group
City Hall, Chet & Sabra Avery Conference Room 2000
Monday, February 10, 2014, 6:00pm

1. Welcome and Introductions  
   Staff and Committee Members

2. Review Work Program  
   Staff

3. Progress by Hughes Group Architects  
   Staff
   a) Package #1: Samuel Tucker, James K. Polk,  
      Lyles-Crouch, Charles Barrett
   b) Site visits completed: T.C. Minnie Howard, Cora Kelly,  
      Matthew Maury, George Mason, John Adams
   c) Sites remaining: George Washington, Douglas MacArthur,  
      William Ramsay, Mt. Vernon, Francis C. Hammond, T.C. Williams King Street

4. Capacity Discussion  
   Staff and Committee Members
   a) Physical
   b) Programmatic
   c) Core
   d) Level of Service

5. Group Discussion/Next Steps
**Why is this important?**

Important both for the design of the facility and to enrollment the right number of students in each building.

**Variables**
- Building size
- Number/types of teaching stations
- Support facilities
- Staffing
- Specialty program offerings
- Class sizes
- Schedules

**Physical (Design, Building) Capacity**
This term refers to how many students a school building can accommodate with a traditional instructional program. Building capacity is calculated by multiplying the number of full-size classrooms in the building by the number of students a classroom is designed to accommodate. General parameters typically defined at state or county level. Can be further developed based upon local educational specifications.

Pros: Numbers do not change unless class size policies are altered or a capacity project is completed.

Cons: Does not consider any programming limitations so capacity appears greater than actual utilization. Assumes 100% utilization throughout the day.

**Program Capacity**
Program capacity defines the capacity of a school based upon the specific educational programs that are provided at a particular school site. Several models for calculating
#1- uses teaching stations and actual student/teacher ratio
#2- uses teaching stations and class-size caps
#3- uses teaching stations and design capacity
#4- uses teaching stations and actual square feet

Pros: Capacity is consistent with utilization

Cons: Programs are constantly changing so capacity is a moving target

**Core Facilities**
Core spaces typically include cafeteria, serving area, kitchen, gymnasium, multipurpose room, library/media center. Calculated based on a square foot allowance per student.
**Utilization Factor**
Education specification specialists recommend the use of a utilization factor in determining school capacity. The utilization factor is a percentage applied to the optimum capacity to account for the uneven distribution of students across grade levels and cohort groups. The recommended rate for elementary schools is 90-100%. The recommended rate for middle school is 70-85% and high school is 80-85%.

**Level of Service**
Goal for acceptable level of service provided by a facility based on the operational characteristics of the facility.

**Other**
- Square footage per student
- Gross square feet of permanent facilities
- Calculate square feet per student and compare to a recommended standard

**Hybrid/Combination**
Uses a combination of factors including core capacity and building or program capacity. Provides a more realistic capacity calculation than others. Can use a variety of methods to reflect existing conditions.

**Capacity numbers are not fixed.**
**Capacity Example:**

**Instructional Classrooms-**
- 4 Pre-Kindergarten
- 6 Kindergarten
- 4 1st Grade
- 3 2nd Grade
- 7 3rd Grade
- 1 full size special education

**Core Spaces-**
- 1 media center 2,000 SF
- 1 gymnasium 4,000SF
- 1 cafeteria 5,000 SF (357-625 students)
- 1 art
- 1 music

**Design Capacity Teaching Stations x Class-Size Caps**

<table>
<thead>
<tr>
<th>Classrooms</th>
<th>Type</th>
<th>ACPS Class size Cap</th>
<th>Design Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>Early Childhood</td>
<td>22</td>
<td>220</td>
</tr>
<tr>
<td>7</td>
<td>1st &amp; 2nd</td>
<td>24</td>
<td>168</td>
</tr>
<tr>
<td>7</td>
<td>3rd</td>
<td>26</td>
<td>182</td>
</tr>
<tr>
<td>1</td>
<td>Special Ed.</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>1</td>
<td>Art</td>
<td>26</td>
<td>26</td>
</tr>
<tr>
<td>1</td>
<td>Music</td>
<td>26</td>
<td>26</td>
</tr>
<tr>
<td>1</td>
<td>PE</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Stations</strong></td>
<td></td>
<td><strong>632</strong></td>
<td></td>
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</tbody>
</table>

**Program #1 Teaching Stations and Student/Teacher Ratio**

24 General Teaching Stations x Student/Teacher Ratio 23 = 552 +
1 Special Education Station x10 students = 562
562 * .95 utilization = 534S students
Program #2 Teaching Stations and Class-Size Caps

<table>
<thead>
<tr>
<th>Classrooms</th>
<th>Type</th>
<th>ACPS Class size Cap</th>
<th>Total Program Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>Early Childhood</td>
<td>22</td>
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<td></td>
</tr>
<tr>
<td>1</td>
<td>PE</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Stations</strong></td>
<td><strong>580</strong></td>
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<td></td>
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</tbody>
</table>

*specialty classrooms (music and art) are not available to permanently house additional full-time Students
580 * .95 utilization = 541 students

Program #3 Basic Program Analysis
24 General Teaching Stations x Capacity 26 students = 624 +
1 Special Education self-contained room x 10 students= 634 students
634 * .95 utilization = 602 students

*assumes all rooms can accommodate 26 students

Program #4 Program Square Footage
* considers actual square footage of classrooms

<table>
<thead>
<tr>
<th>Actual Sq Ft</th>
<th>Std. SF/Student</th>
<th>Std. Capacity</th>
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</thead>
<tbody>
<tr>
<td>850</td>
<td>35 SF</td>
<td>24</td>
</tr>
<tr>
<td>900</td>
<td>35 SF</td>
<td>25</td>
</tr>
<tr>
<td>600</td>
<td>75 SF</td>
<td>8</td>
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<tr>
<td><strong>Total</strong></td>
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Out of the 24 General Teaching Stations 10 were 850 SF = 240 student, 14 T.S. were 900 SF = 350 and 600 SF Special Ed classroom can accommodate 8 students totaling 598 capacity
598 * .95 utilization = 568 students